FIG. 1

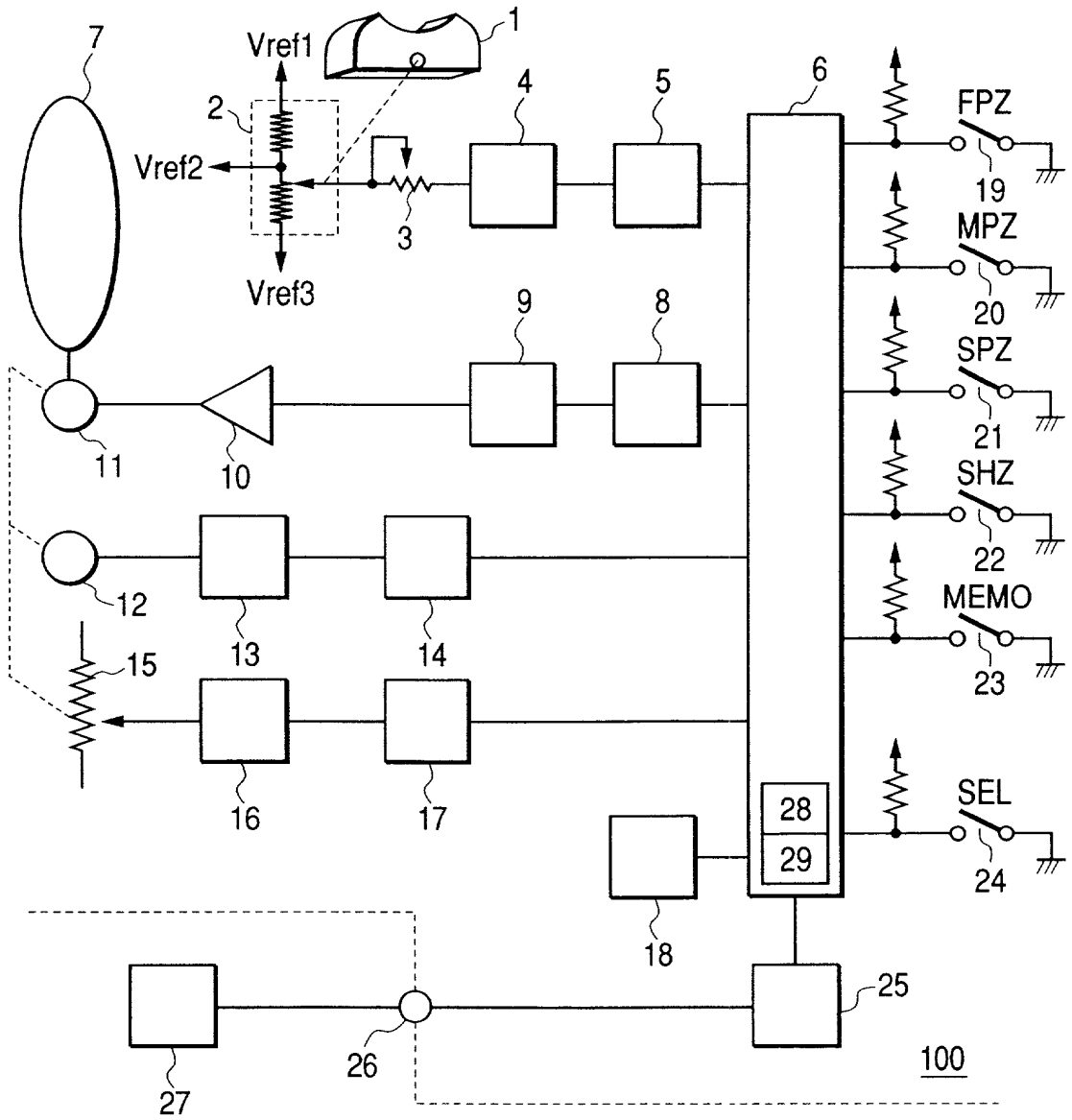

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
Vref1
Vref2
Vref3
FPZ
MPZ
SPZ
SHZ
MEMO
SEL
100

FIG. 2

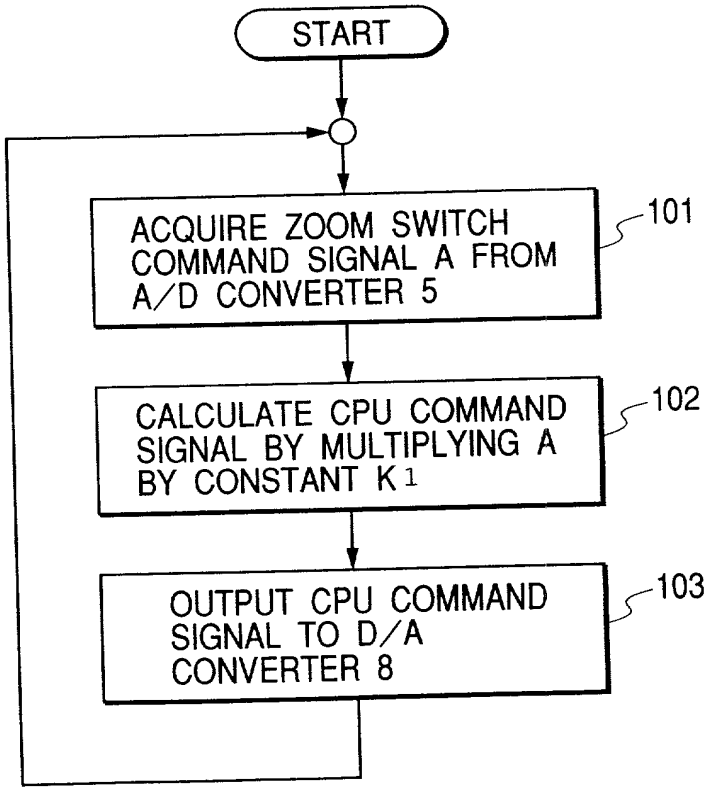

START
ACQUIRE ZOOM SWITCH COMMAND SIGNAL A FROM A/D CONVERTER 5
101
CALCULATE CPU COMMAND SIGNAL BY MULTIPLYING A BY CONSTANT K1
102
OUTPUT CPU COMMAND SIGNAL TO D/A CONVERTER 8
103

FIG. 3

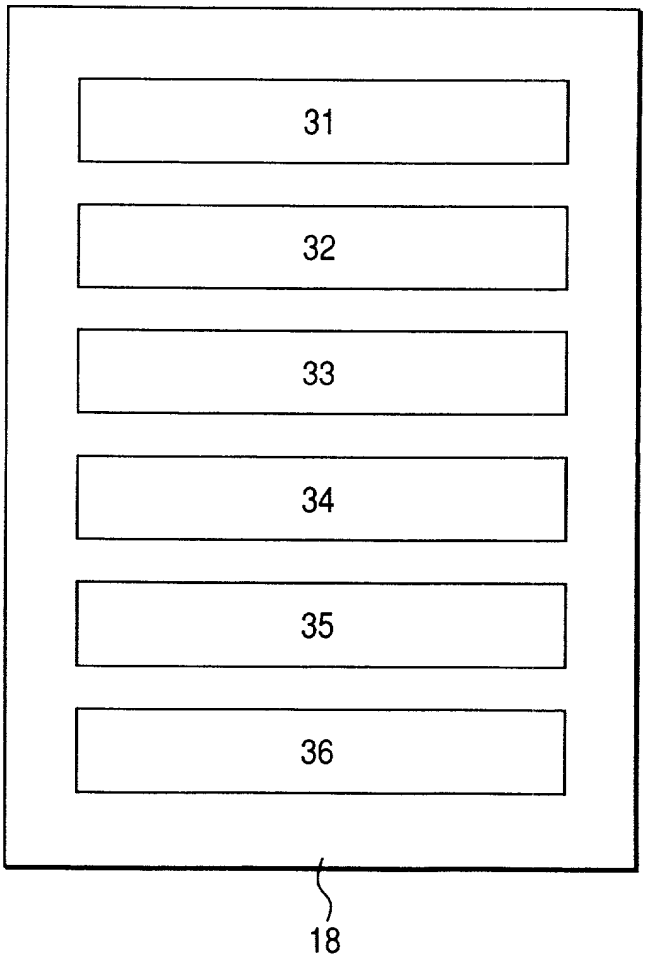


FIG. 4

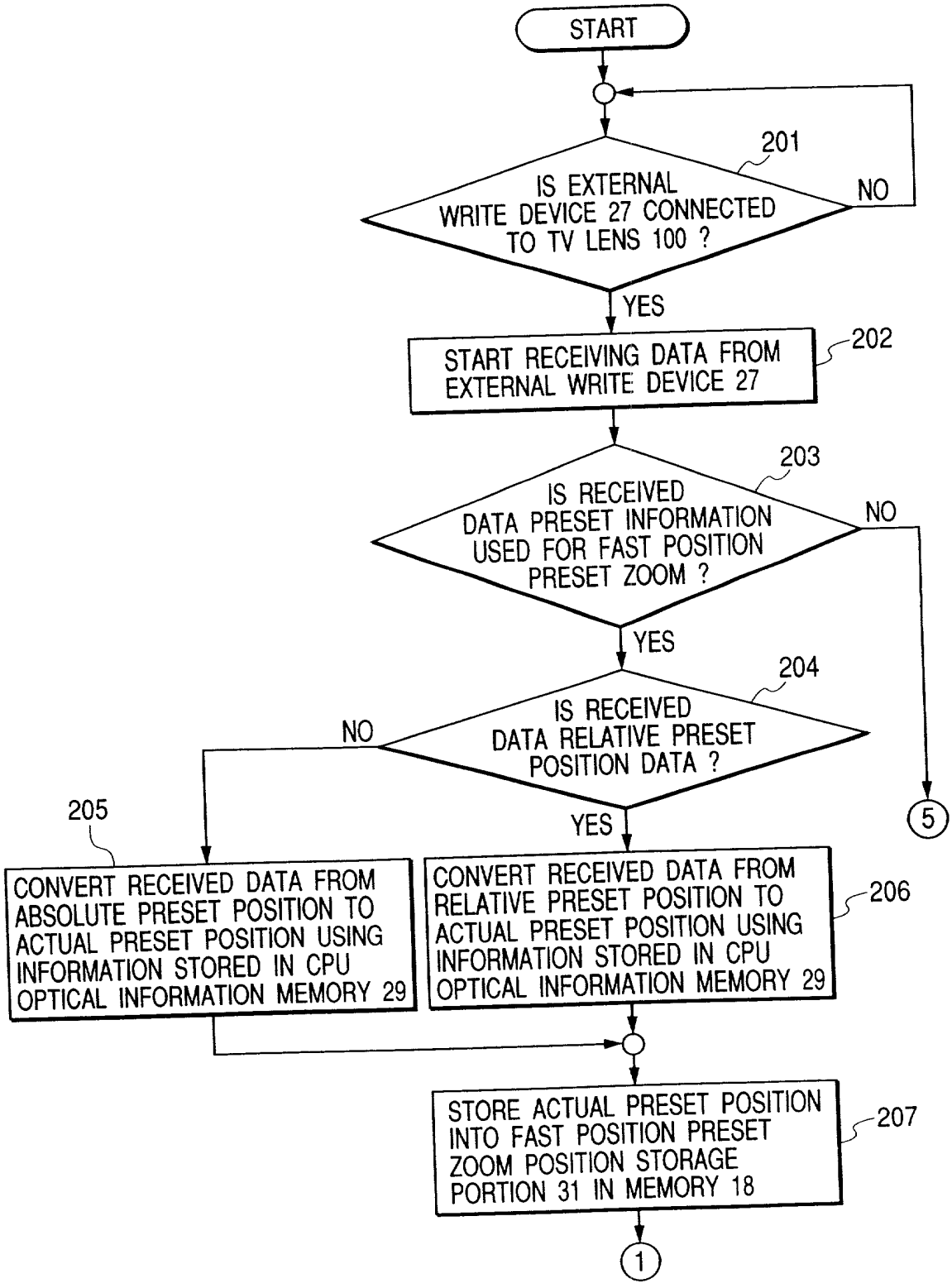

START
201
IS EXTERNAL WRITE DEVICE 27 CONNECTED TO TV LENS 100 ?
NO
YES
START RECEIVING DATA FROM EXTERNAL WRITE DEVICE 27
202
203
IS RECEIVED DATA PRESET INFORMATION USED FOR FAST POSITION PRESET ZOOM ?
NO
YES
204
IS RECEIVED DATA RELATIVE PRESET POSITION DATA ?
NO
YES
5
205
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
CONVERT RECEIVED DATA FROM RELATIVE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
206
STORE ACTUAL PRESET POSITION INTO FAST POSITION PRESET ZOOM POSITION STORAGE PORTION 31 IN MEMORY 18
207
1

FIG. 5

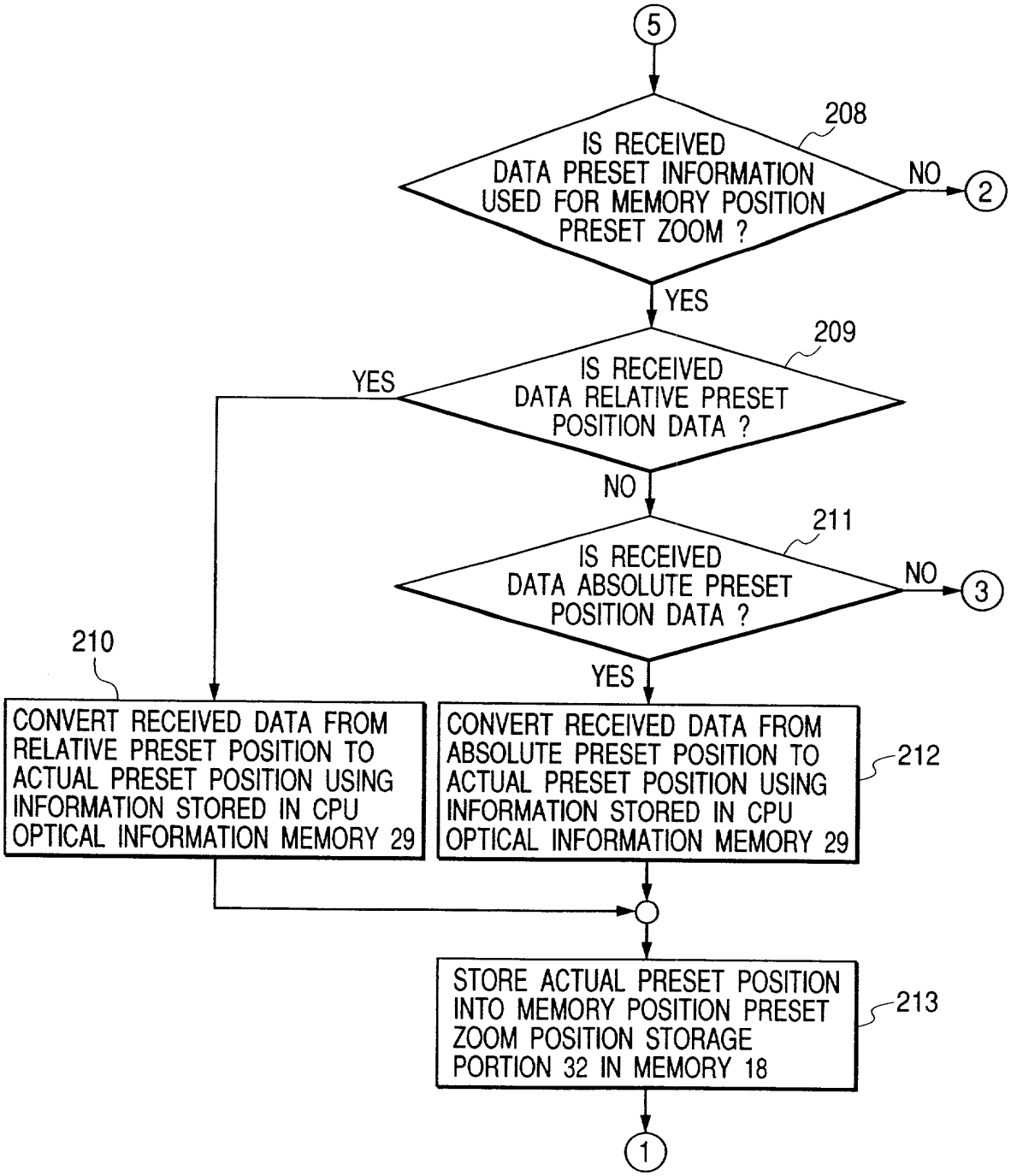

5
208
IS RECEIVED DATA PRESET INFORMATION USED FOR MEMORY POSITION PRESET ZOOM ?
NO
2
YES
209
IS RECEIVED DATA RELATIVE PRESET POSITION DATA ?
YES
NO
211
IS RECEIVED DATA ABSOLUTE PRESET POSITION DATA ?
NO
3
YES
210
CONVERT RECEIVED DATA FROM RELATIVE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
212
STORE ACTUAL PRESET POSITION INTO MEMORY POSITION PRESET ZOOM POSITION STORAGE PORTION 32 IN MEMORY 18
213
1

FIG. 6

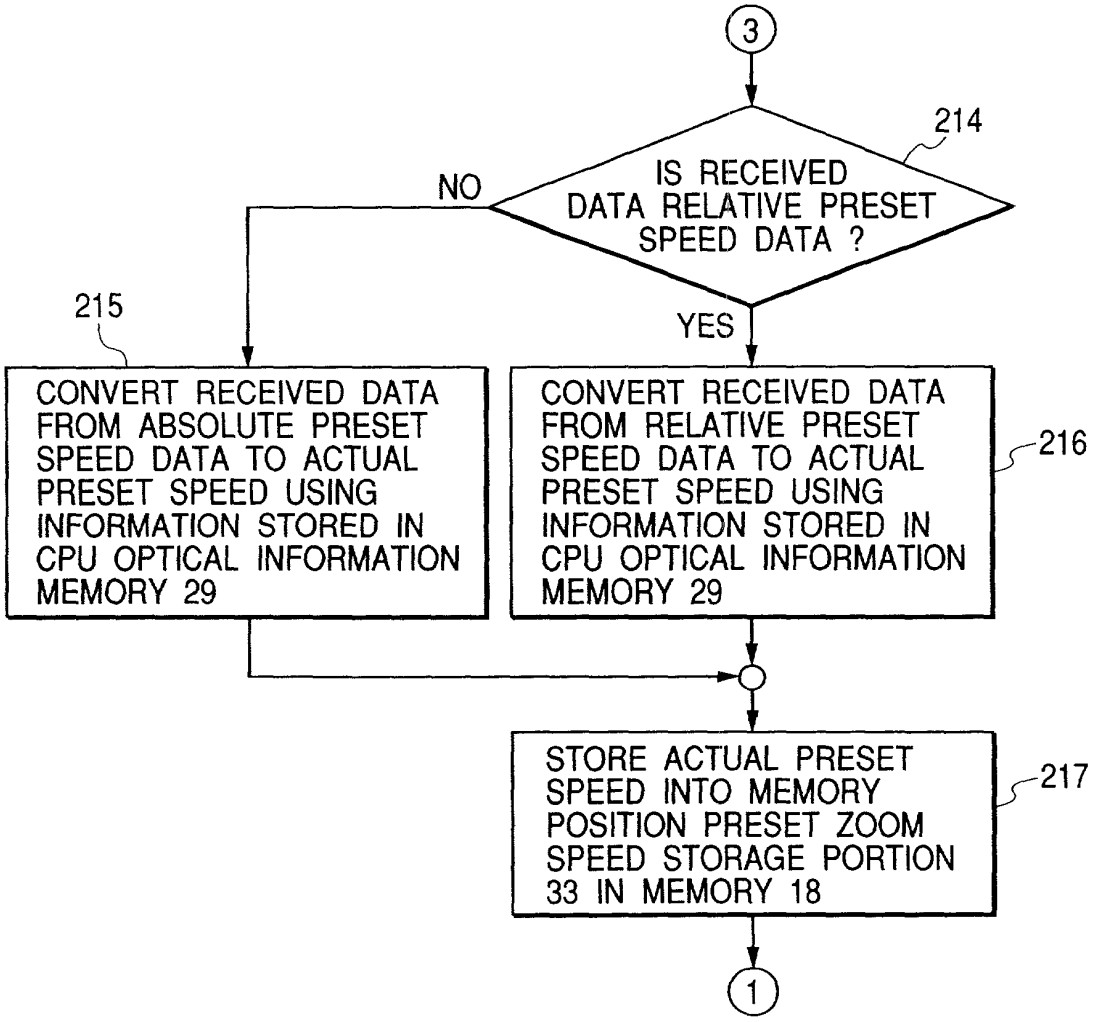

3
214
IS RECEIVED DATA RELATIVE PRESET SPEED DATA ?
NO
YES
215
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET SPEED DATA TO ACTUAL PRESET SPEED USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
CONVERT RECEIVED DATA FROM RELATIVE PRESET SPEED DATA TO ACTUAL PRESET SPEED USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
216
STORE ACTUAL PRESET SPEED INTO MEMORY POSITION PRESET ZOOM SPEED STORAGE PORTION 33 IN MEMORY 18
217
1

FIG. 7

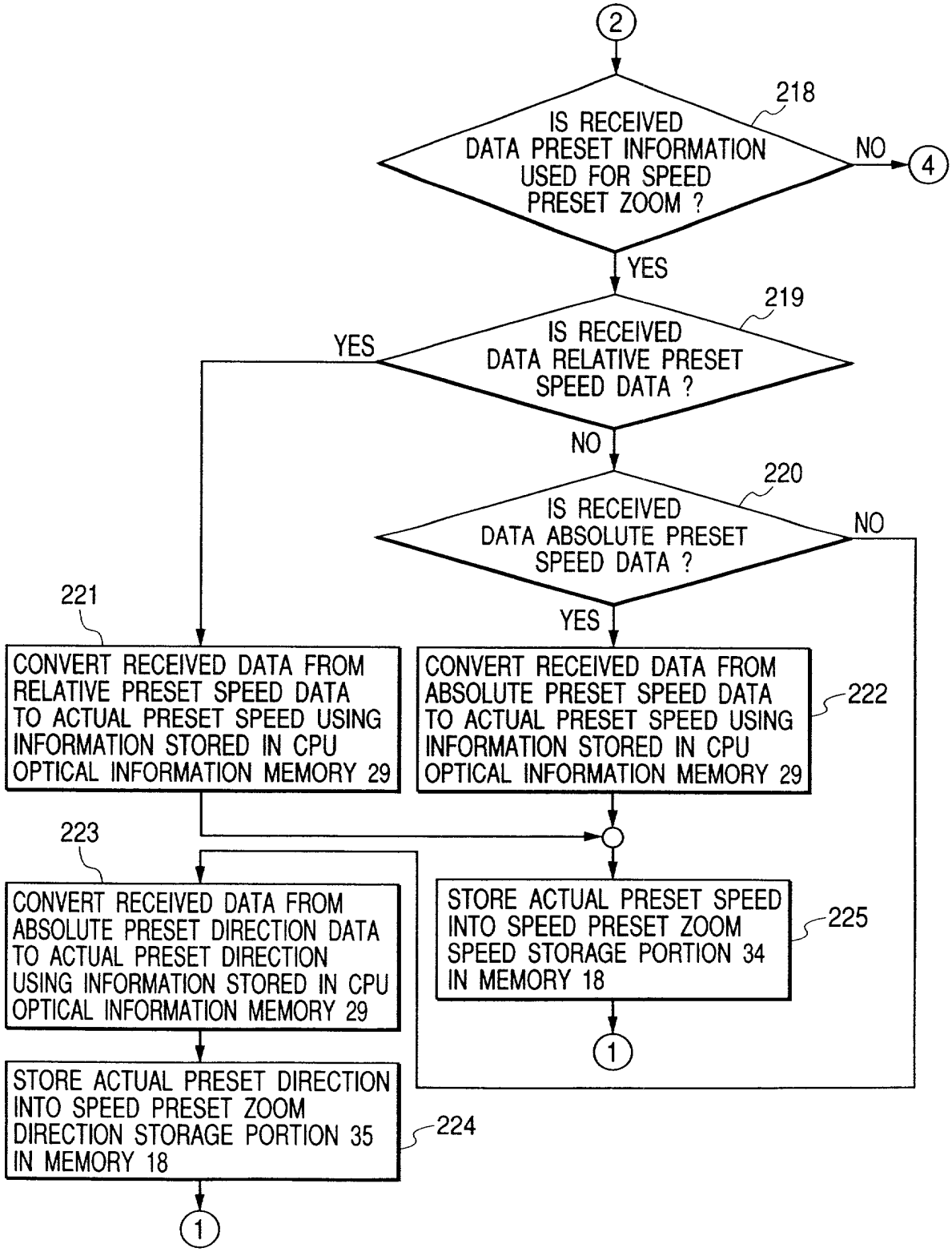

2
218
IS RECEIVED DATA PRESET INFORMATION USED FOR SPEED PRESET ZOOM ?
NO
4
YES
219
IS RECEIVED DATA RELATIVE PRESET SPEED DATA ?
YES
NO
220
IS RECEIVED DATA ABSOLUTE PRESET SPEED DATA ?
NO
YES
221
CONVERT RECEIVED DATA FROM RELATIVE PRESET SPEED DATA TO ACTUAL PRESET SPEED USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET SPEED DATA TO ACTUAL PRESET SPEED USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
222
223
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET DIRECTION DATA TO ACTUAL PRESET DIRECTION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
STORE ACTUAL PRESET SPEED INTO SPEED PRESET ZOOM SPEED STORAGE PORTION 34 IN MEMORY 18
225
STORE ACTUAL PRESET DIRECTION INTO SPEED PRESET ZOOM DIRECTION STORAGE PORTION 35 IN MEMORY 18
224
1
1

FIG. 8

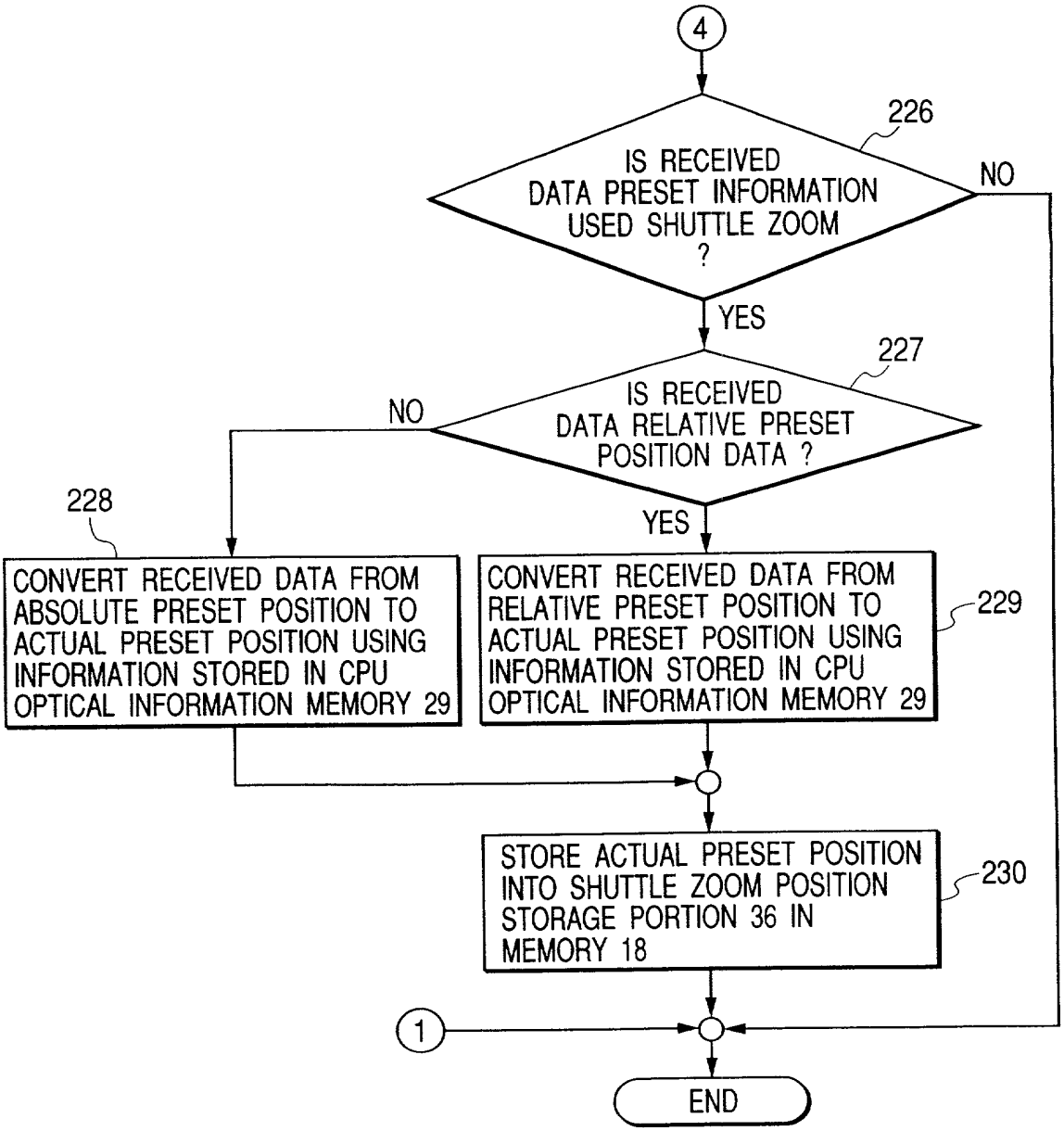
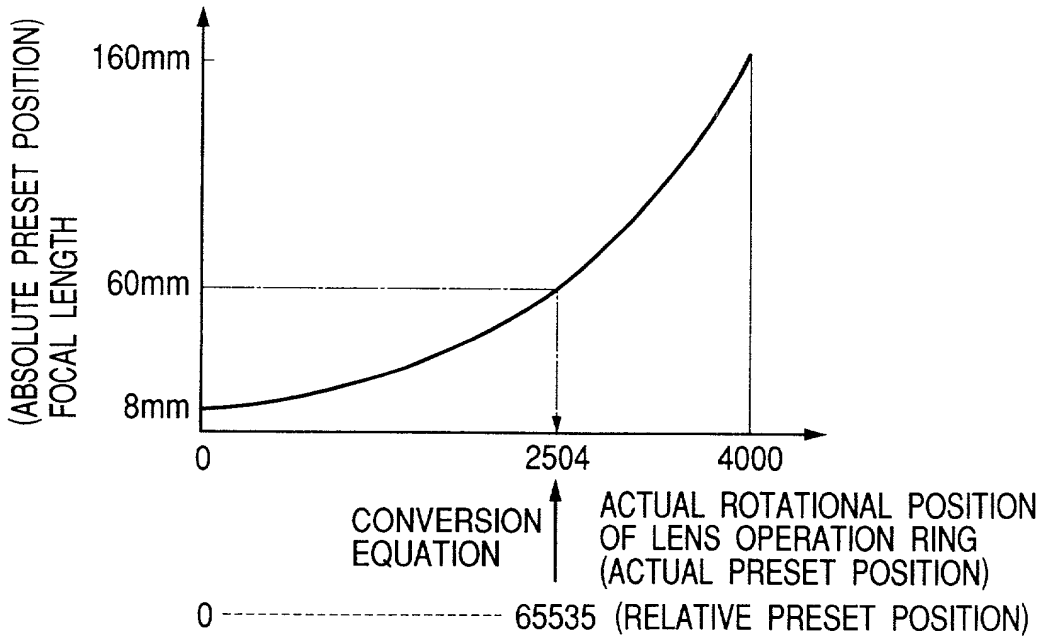

4
226
IS RECEIVED DATA PRESET INFORMATION USED SHUTTLE ZOOM ?
NO
YES
227
IS RECEIVED DATA RELATIVE PRESET POSITION DATA ?
NO
YES
228
CONVERT RECEIVED DATA FROM ABSOLUTE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
CONVERT RECEIVED DATA FROM RELATIVE PRESET POSITION TO ACTUAL PRESET POSITION USING INFORMATION STORED IN CPU OPTICAL INFORMATION MEMORY 29
229
STORE ACTUAL PRESET POSITION INTO SHUTTLE ZOOM POSITION STORAGE PORTION 36 IN MEMORY 18
230
1
END

FIG. 9


(ABSOLUTE PRESET POSITION)
FOCAL LENGTH
160mm
60mm
8mm
0
2504
4000
CONVERSION EQUATION
ACTUAL ROTATIONAL POSITION OF LENS OPERATION RING (ACTUAL PRESET POSITION)
0
65535 (RELATIVE PRESET POSITION)